Molecular Biology 255
Scientific Writing

Units:	3.0
Grading Basis:	Letter grading
Instructional Format:	Lecture / Discussion / Written Assignments
TIE Code:	SEMT (Seminar – Topical)
Contact Hours:	2 hours per week in class (7 hours per week outside study and preparation).
Enforced Requisites:	Graduate student standing (enrollment limited to MB IDP 1st year Ph.D. students)
To be Offered:	W

Course Description:

The goals of the course are to prepare students for their Written Qualifying Examination (WQE) and to improve their skills in scientific writing. The syllabus includes guidelines for writing different components of a grant proposal and qualifying exams, principles of effective writing, preparing and submitting a scientific manuscript, the art of editing, and issues in publication and peer review process.

Justification of the Course:

The objective of this course is to develop skills in preparing research proposals and other forms of scientific writings. While an important element of science is about communicating discovery, clear scientific writing is rarely taught in graduate courses. This deficiency reduces the ability of our students to perform well on written exams and to compete for extramural funding.

Course-Level Objectives/Competencies:

Knowledge outcomes – Students will understand the importance of clear communication and effective writing and recognize the different types of scientific writing. They will become familiar with the components of an effective grant proposal and the process of manuscript submission, peer review and rebuttals.

Skill outcomes – Students will be able to write using correct grammar and tense, active voice, and properly constructed sentences and paragraphs. Students will avoid redundancies, jargon, and unnecessary adjectives. Students will be more proficient editors.

Attitudes and values outcomes – Students will learn about ethics in scientific writing (i.e. plagiarism and fraudulent data) and proper acknowledgement of contributions among multiple investigators or authors.

Behavior outcomes – Students will conduct themselves more positively and confidently when writing and editing scientific abstracts, manuscripts, and grant applications.

Requirements:

This is a required course for all MB IDP 1st year graduate students. Undergraduates may take this course with instructor approval.

Reading list:

There will be no specific textbook for this course. Required reading materials and copies of research papers will be posted on the course web site. See **Literature** below.

Website: CCLE webplatform

https://urldefense.com/v3/__https://ccle.ucla.edu/course/view/21W-MOLBIO255-1__;!!F9wkZZsI-LA!UxcMmwzQ4aCis2EJoazXQg97SmZnB5EAT6PE9uZ_S-y3IGxk0vxYHFV-j9hEGXoKY4o$

Grading Structure:

Students are expected to attend all classes. The course is graded on the performance of five written assignments, which are graded as S/U. Students who receive five “S” grades on the written assignments will receive an “A” grade for the course, four “S” grades on the written assignments will be a “B” grade, and students who receive two or more “U” grades on written assignments will receive a failing grade.

Lecture/Discussion and Written Assignment Schedule

Week	Date	Topics
1	1/06	Lecture: Introduction and course objectives (Chow & Coller) Breakout Discussion: Selecting a WQE topic & Title (HADs) Homework: Videos on scientific writing and principles of effective writing
2	1/13	Lecture: Grant applications and WQE; Components of a proposal (Chow) [1] Discussion: Scientific writing and editing (Colicelli) [2] Homework: UCLA OVCR Research Enhancement Office (REO) Series/Session 3: Grantsmanship 101; Session 6: Competing for Funding from the NIH/The Basics/Planning Your Project **Written Assignment 1: WQE title page** (includes a brief introduction/objectives; due 1/20)
3	1/20	Lecture: Writing the Specific Aims page (Chow) Discussion: Critiques on the WQE title page (peers) Homework: OVCR REO Series/Session 6: Writing Your NIH Proposal **Written Assignment 2: Specific Aims** (Due 2/03)
4	1/27	Lecture: Rules of good writing & revision; Writing paper title and abstract; Organizing and streamlining (Coller & Marcus) Discussion: Paragraph and paper construction; organizing figures (Coller & Marcus)
5	2/03	Lecture: Writing the Significance & Innovation sections (Chow) Discussion: Critiques on the Specific Aims page (peers) Homework: OVCR REO Series/Session 6: Writing Your NIH Proposal [3] **Written Assignment 3: Significance & Innovation** (Due 2/10)
6	2/10	Lecture: Writing the Approach section (Chow) Discussion: Critiques on Significance & Innovation sections (peers) Homework: OVCR REO Series/Session 6: Writing Your NIH Proposal [3] **Written Assignment 4: Approach** (Due 2/26)
7	2/17	Lecture: Study sections and peer review (Chow) Homework: OVCR REO Series/Session 6: The Review Process; Video on NIH Study Section Meeting (https://www.youtube.com/watch?v=lzBhKeR6VIE)
8	2/24	Lecture: Paper submission & editorial process; Rebuttals & resubmissions; Authorships (Coller & Marcus) Discussion: My career as an editor (Marcus)

9	3/03	Lecture: Writing the Biosketch and Abstract (Chow) Breakout Discussion: Critiques on the Approach section (HADs) [3] **Written Assignment 5: Final WQE Proposal** (Due 3/10)
10	3/10	WQE Presentations

[1] The exact date and time of the Week 2 Discussion session will be determined.

[2] Please visit https://ucla.box.com/v/UCLAREO-RESFall18-Instructions to access the UCLA OVCR Research Enhancement Office Series webinars (Fall Quarter 2018). Note: If you are part of UCLA Health Sciences, please login to your UCLA Health Sciences Box via https://uclahs.account.box.com/login, then visit https://ucla.box.com/v/UCLAREO-RESFall18-Instructions.

[3] Written Assignments 3-5 include revisions of previous assignments.

HADs, Home Area Directors

Lecturers

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Writing Coaches

Sam Chow
Hilary Coller
Elissa Hallem
Feng Guo
Jeff Long
Emilie Marcus
Greg Payne

Literature

There is no textbook. Students who would like additional reading may enjoy:

- *On Writing Well, William Zinsser;*

- *The Elements of Style, Strunk and White;*

- *Sin and Syntax, Constance Hale;*

- *Essentials of Writing Biomedical Research Papers, Mimi Zeiger;*

- *http://www.aacc.org/publications/clin_chem/ccgsw/Pages/default.aspx*